

IVENS – Appln. No. 10/817,520

REMARKS

Reconsideration and allowance are respectfully requested. Claims 1, 4, 5 and 11 have been amended. Claims 8-10 and 13 have been cancelled. Thus, claims 1-7 and 11-12 are pending.

Claims 1-8 and 1-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Van Kampen in view of Lungu. This rejection is respectfully traversed. Claims 1 and 11 have been amended to define the invention more clearly. In particular, claim 1, as amended, recites that movement of the head between the open and closed configurations excludes resilient biasing. Claim 11, as amended, recites that resilient biasing of the permanent magnet is excluded.

The Examiner cites Van Kampen as disclosing an emissions control valve between a canister and an intake manifold. Since Van Kampen's valve 10 requires a spring 160 to bias the valve closed, the Examiner cites Lungu as disclosing a permanent magnet that biases a valve closed. The Examiner contends that it would have been obvious at the time the invention was made to construct Van Kampen's valve as taught by Lungu.

Van Kampen's spring 160 is required as an integral part for proper force balancing of the valve. At column 6, lines 25-59, Van Kampen discloses the importance of the spring 160 and force balancing:

As the current increases, increasing force is applied to armature member 122 in the direction of increasingly displacing valve element 33 away from valve seat 62. This force is countered by the increasing compression of spring 160. The extent to which valve element 33 is displaced away from seat 62 is well-correlated with the current flow, and because of force-balancing and the sonic flow, the valve operation is essentially insensitive to varying manifold vacuum. The maximum displacement of armature 122 and valve element 33 away from valve seat 62 is defined by abutment of the inner margin of diaphragm 124 with the confronting end of bobbin core 72.

In the operative emission control system 10, intake manifold vacuum is delivered through outlet 26 and will act on the area

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circumscribed by the seating of lip 150 on seat 62. Absent force-balancing, varying manifold vacuum will vary the force required to open valve 10 and hence render variable the amount of energizing current to coil 81 that is required to operate valve element 33. Force-balancing de-sensitizes valve operation, initial valve opening in particular, to varying manifold vacuum. In the inventive CPS valve 14, force-balancing is accomplished by a communication path, provided via through-hole 142 to the portion of through-hole 78 interior of pole piece 86 and thence to an annular space 168 that is closed to interior space 42 by diaphragm 124. By making the closed force-balancing space exposed to manifold vacuum communicated via through-hole 142 have an effective armature/diaphragm area equal to the area circumscribed by the seating of lip 150 on seat 62, the force acting to resist unseating of the closed valve element is nullified by an equal force acting in the opposite axial direction. Hence, the CPS valve is endowed with a well-defined and predictable opening characteristic which is important in achieving a desired control strategy for canister purging.

Applicant submits that providing a valve such as Lungu (having no spring) in the device of Van Kampen would improperly destroy the invention of Van Kampen. See Ex parte Hartman, 186 U.S.P.Q. 336, 337 (P.T.O.B.O.A. 1974) (reversing rejection when modification would destroy basis for invention in one or two references). Therefore, the rejection should be withdrawn.

Each of claims 4 and 5 has been amended to correct an informality therein.

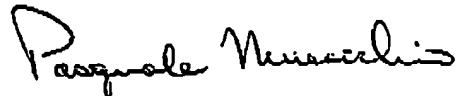
The rejection of claims 9 and 10 is moot since these claims have been canceled.

All rejections having been addressed, it is respectfully submitted that this application is in condition for allowance and a Notice to that effect is earnestly solicited.

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To the extent necessary, Applicant petitions for an extension of time under 37 C.F.R. 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including any missing or insufficient fees under 37 C.F.R. 1.17(a), to Deposit Account No. 19-2179, under Order No. 2003P04911US01, and please credit any excess fees to such deposit account.

Respectfully submitted,



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